

**WHAT IS CLAIMED IS:**

1. A spectral ellipsometer having a refractive illuminating optical system (3)  
for an illuminating ray bundle (2), coming from an illumination unit (1), for  
generating a measurement spot (6) on a surface (4) of a specimen (5); and  
having a detector unit (8) that receives and detects, as a measured ray bundle  
(7), the light reflected from the surface (4) at the location of the  
measurement spot (6), wherein the illuminating optical system (3) is color-  
corrected.
2. The spectral ellipsometer as defined in Claim 1, wherein the color-corrected  
illuminating optical system (3) is a lens doublet or a lens triplet.
3. The spectral ellipsometer as defined in Claim 1, wherein the color-corrected  
illuminating optical system (3) is made of glass having high transmission in  
the UV range and/or has an anti-reflection coating.
4. The spectral ellipsometer as defined in Claim 1, wherein the color-corrected  
illuminating optical system (3) is constructed from individual refractive  
optical elements that are joined with a cement having high transmission in  
the UV range.
5. The spectral ellipsometer as defined in Claim 1, wherein a receiving optical  
system (9a) that is color-corrected is provided for the measured ray bundle  
(7).
6. The spectral ellipsometer as defined in Claim 5, wherein the color-corrected  
receiving optical system (9a) is a lens doublet or a lens triplet.

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7. The spectral ellipsometer as defined in Claim 5, wherein the color-corrected receiving optical system (9a) is made of glass having high transmission in the UV range and/or has an anti-reflection coating.
- 5 8. The spectral ellipsometer as defined in Claim 5, wherein the color-corrected receiving optical system (9a) is constructed from individual refractive optical elements that are joined with a cement having high transmission in the UV range.
- 10 9. The spectral ellipsometer as defined in Claim 1, characterized in that it is used to measure material parameters of thin layers applied onto the specimen surface (4).

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